Policing Matter(s)

Social relevance

This thesis makes the argument that technologies in policing matter. That is, more than mere tools, the material dimension of policing has a significant influence on who is regarded as suspicious and where, when and how the police engage in surveillance practices. Technologically-mediated environments, both in policing organizations as well as in our increasingly smarter cities, play an active role in informing, guiding, and defining policing strategies, tactics and practices. What is 'a suspicious group', 'a dubious activity', 'a fishy behaviour' is partly also what the screens enact as such.

The empirical findings of this research suggest an ambivalent result. On the one hand, new information technologies often improve existing policing practices. Connected databases, digitized routines and pervasive screens bring about a speedier decision-making process as well as a more informed practitioner. On the other hand, we have seen that algorithmic profiles or system classifications can incorporate identity attributes and prejudiced views towards particular groups or categories. When prejudice is embedded in code, logged in classifications and displayed on screens it matters less how well-intended are the individual police agents. Solidifying in infrastructures, these software enabled artefacts become invisible and implicitly guide the policing of groups, categories, areas, persons or communities.

Therefore, this book argues that values in policing should not only be the realm of discourse and policy making but also of technology design. Engaging in a Value Sensitive Design approach in policing nurtures an environment that increases the chance for more transparent and ethically informed ways of developing profiles, classifications, algorithms or material arrangements. After all, policing in democratic societies needs to protect citizens from criminal manifestations as well as from unjustified surveillance and discriminatory actions. Defusing potentially explosive 'pockets of prejudice' that may have formed in our infrastructures, opening up the criteria of suspicion algorithms or creating a more transparent surveillance are all steps towards decreasing unjustified harm to various categories of people and increasing trust in policing among minority groups, communities and society at large.

Target groups

A first major group that may benefit from these results are policing organizations. This may include the public, uniformed police, organized at local and state level but also transnational bodies working at European level. They are the primary beneficiaries of new information technologies and they are the ones who need to incorporate innovations in their procedures, routines and practices. Policing practitioners would benefit by becoming aware of the ways in which the technologies that they engage with are mediating their perceptions, decisions and actions, shaping their practices at operational, tactical and strategic levels.

A second group are educational institutions such as police academies, at both national and European levels. Understanding what technologies do besides their instrumental role could

create more awareness among the future policing practitioners. This awareness concerns the mediating role of technologies, minimizing the risk for voluntary and involuntary discriminatory actions and creating better conditions for a privacy protective attitude. Of course, the police education curriculum does already incorporate awareness-raising items concerning inadequate databases, privacy protection and non-discrimination. Still, the pervasiveness of contemporary information infrastructures and new phenomena such as big data, smart cities or the Internet of Things invite a comprehensive approach to understanding technology in police education.

A third group are the technology designers. These may include third party developers who deliver technology to police organizations and in-house police programmers who develop day-to-day profiles, suspicion indicators or algorithmic alerts. Becoming aware of the ways in which technology designs may incorporate pockets of prejudice or problematic classifications, could decrease the risk for the accumulation of informational harm and defuse potentially explosive situations. Moreover, engaging in a Value Sensitive Design approach would create the conditions for less arbitrary ethical reflection in a domain fraught with sensitive decisions.

A fourth group are privacy professionals. Whether privacy officers within police organizations or privacy advocates, the insights produced by this empirical research provide avenues for further investigation and a vocabulary to probe the layers of technological infrastructures. Besides being concerned with data protection or data privacy issues, this book argues that we need to constantly engage in a sedimentology of infrastructures where pockets of sediment might have encapsulated relevant deposits. Upon performing a lithology of software layers this group of professionals can reveal various problematic architectural features or design choices.

A fifth group are policy makers. We have seen that technologies do what they do within socio-technical assemblages where multiple (f)actors play an important but underdetermining role. Problematic outcomes cannot be always traced to design features, organizational structures, legal loopholes or practitioner's behaviour alone. Policy makers can benefit from a lithology of arrangements to enable precise policy changes at organizational, design or legal levels and their interrelation.

Activities/Products

A first item that results from this book is a new process. Target groups (as identified in the previous section) can borrow and expand the approach and vocabulary proposed in this book to continuously scrutinize the underlying lithology of socio-technical infrastructures and gather data and evidence on the nature and depositional conditions for sediments. A sedimentology of infrastructures can span both depth and spread to derive information on the types of sediments, their distribution and dynamics. This may mean periodically welcoming external code reviews, probing the output of suspicion profiles against dynamic changes in the environment and expanding the scope of probes when algorithms aggregate multiple smart sensors and databases. In these ways, target groups are in a better position to identify and defuse potentially problematic situations such as the ones we've seen in this book.

A second item is a process change in the context of design. Instead of allowing the formation of dangerous pockets of sediments in our infrastructures a Value Sensitive Design approach (as proposed in this book) enables a proactive approach that can foster a more transparent and

ethically informed process of design. A pragmatic take of the VSD methodology proposes values as heuristics while requiring a minimum set of values from the VSD researcher/designer. Pluralism and inclusivity are necessary to involve direct as well as indirect stakeholders and transparency would allow the possibility for critical analysis of design choices. Considering other values informs the design process, creating awareness of ethical implications and opening for reflection particular design choices that would otherwise remain implicit. At the same time, the VSD literature offers a growing body of examples that show how conflicting values can be reconciled in a positive sum, rather than a zero-sum approach. We have seen, for instance, in this book how Dutch police designers made efforts and took steps to reconcile privacy and security in their socio-technical arrangements without sacrificing one for the other.

A third item that results from this book is a product. This refers to a course that is being given by the author of this book (currently to students at Erasmus University Rotterdam). With small adaptations the course can be also given in policing educational contexts. As argued in this book, avoiding some of the problematic outcomes in technologically mediated policing requires a shift in thinking about technology in policing from determinist and instrumentalist views towards more constructivist and performative accounts. In the course, students study and critically reflect on policing practices and associated technologies which have become increasingly important in understanding both policing and our contemporary technological culture. The course begins with a module in *Surveillance studies*. It explores various metaphors and theories that shape our understanding of surveillance, ranging from well-known novels and films to concepts developed in contemporary surveillance studies. Students critically reflect on the adequacy of concepts and models for understanding various policing practices that involve information and communication technologies. Second, students examine several conceptualizations of their relations to information and communication technologies in a module on *Philosophy of Technology*. In this part of the course students explore and discuss themes such as technological determinism and individual agency, the inevitability thesis and constructivist approaches to technology, instrumentalism and technological mediation. Through examples and practical activities students apply these concepts and learn to identify the active mediation of various technologies. In a third module on *Values in Design*, students discuss the ways in which values such as privacy, non-discrimination, trust or autonomy can be both eroded and protected through technologically-mediated practices. The course ends by allowing students to present their own views, through a written paper, and come to grips with these processes in ways that reconcile multiple values with efficient policing.

Innovation

A first way in which the results of this book can be called innovative refers to the proposed understanding and assessing of technological infrastructures. The book argues that a geological vocabulary for understanding infrastructures is better prepared to account for a set of newly identified phenomena. Contrasting an archaeological vocabulary that tends to focus on human activity in the past and to equate social processes with (the remaining) human artefacts (e.g. Iron Age), a geological approach resists a priori anthropocentric explanations. While maintaining an approach that is predicated on investigations of layers and strata, it opens the understanding of infrastructures to a whole set of processes that may or may not be traceable to an initial human activity. Of course, design choices imply designers but the phenomena we have seen in this book require an understanding of infrastructures that allows for sedimentary processes, accumulations, erosions, digital debris and volcanic explosions.

A second way in which the argument of this book can be called innovative refers to the proposed application of a Value Sensitive Design approach to the design of policing technologies. On the one hand, VSD has not been traditionally employed in the area of policing, although there are a few projects that looked into taking a VSD approach to the design of military technologies (Cummings 2006). On the other hand, VSD can expand existing approaches that look into privacy by design. Rather than concentrating on privacy, a VSD approach can foster reflection on a broader set of values. For instance, we have seen how problematic discrimination on a range of identity criteria requires separate consideration in particular socio-technical arrangements and not merely be related to privacy issues.

A third way in which the results of this book can be called innovative refers to the combination of modules in the course mentioned in the Activities/Products section. First, the module on *Surveillance studies* offers students a conceptual background that moves their understanding of surveillance beyond the concepts developed in the police studies literature. It projects police surveillance against the background of a technological culture in which surveillance is practiced by a wide variety of public and private bodies, institutional and individual actors. Second, the module on *Philosophy of Technology* takes the theme of technology seriously. Rather than relegating information technologies to useful tools or technical instruments – as present in a significant body of the police studies literature – it proposes a study of their active role in shaping policing practices and policing models. Bringing in the latest insights from the philosophy of technology, the module invites students to think about the mediating role of ubiquitous information infrastructures and how does this relate to policing models such as community policing or intelligence-led policing. Third, the module on *Values in Design* invites students to think about the design of policing technologies as an ethical process. In a working environment in which police decision-making is partly influenced by the output of risk profiles and algorithms, it is increasingly necessary to reflect on the ways in which these design choices are informed by the explicit and implicit values of their designers.

Schedule & Implementation

Regarding a potential course given to police academy students, the risks involved seem to be rather low. The author of this book is already experienced in teaching a similar course with good evaluations from students. The opportunity to give it in a policing context requires an adaption of focus but the main concepts, approaches and modules derived from this book remain valid. In terms of a schedule, such a course can begin immediately provided openness from educational institutions in policing.

Regarding a VSD approach in policing, the risks seem to be higher. They pertain to the openness of policing organizations to account for values in design and to open the criteria of risk profiles and suspicion algorithms to a more transparent process of design. The empirical research presented in this book demonstrates that such openness is possible but more transparency needs to come from policing organizations themselves. On top of this, implementing such a design process requires a basic but more spread familiarity in policing with the insights of philosophy of technology and science and technology studies. These, of course, can be given through the above mentioned course, either in an educational context or in police organizations themselves. Still, the planning for the valorisation of these results suggests here a sequential process.